

**KANSAS STORAGE TANK PROGRAM
OVERVIEW OF UNDERGROUND STORAGE TANK REQUIREMENTS**

October 26, 2004



KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT

BUREAU OF ENVIRONMENTAL REMEDIATION

Storage Tank Section

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Topeka, KS 66612-1367

OVERVIEW OF KANSAS UNDERGROUND STORAGE TANK REQUIREMENTS

INTRODUCTION

Federal regulations were developed by the Environmental Protection Agency (EPA) and became effective December 23, 1988 that establish requirements for underground storage tanks (UST) storing petroleum and hazardous chemicals. State, and federal statutes and regulations pertaining to USTs are summarized in this document. Copies of the actual regulations are available by contacting the Kansas Department of Health and Environment (KDHE) at (785) 296-8061.

REGULATED TANKS

Regulated tanks include storage tanks containing petroleum or other regulated substances in which 10% or more of the volume, including the pipes, is below the surface of the ground. Following are several types of tanks that are exempt from UST regulations.

1. Farm and residential tanks of 1,100 gallons or less.
2. Single family residence heating oil storage tanks.
3. Tanks situated above the floor of a basement or underground area, where the tank can be visually inspected on all sides.
4. Flow through process tanks.
5. Septic tanks.
6. Tanks with a capacity of 110 gallons or less.

UST CONTRACTOR AND INSTALLER LICENSING

No company, firm, or individual may install, remove, modify, or test an UST without first obtaining a license to do so. To become a licensed UST contractor, an application must be submitted to KDHE with the applicable fees and proof of insurance. The individuals who supervise the field work for the contractor must submit an application, pay the applicable fees, and pass a licensing examination covering the type of work to be supervised. Licensed contractors certified as UST installers and removers must be on site at least 75% of the time; licensed UST testers must be on site 100% of the time.

UNDERGROUND STORAGE TANK PERMITS

Owner/operators who want to have USTs installed must first hire the services of Kansas-licensed Contractors certified by KDHE to install underground storage tanks. The Kansas-licensed Contractor will submit to KDHE a "New Underground Storage Tank Installation Application" and a \$20.00 per tank application fee (includes registration fee of \$10.00 per tank). KDHE must approve the installation before construction can begin and will not issue UST permits until documentation is received that the tanks meet all applicable UST regulations.

Owner/operators of USTs who want to make changes to their systems must first hire the services of Kansas-licensed Contractors certified as installers. These certified installers must submit "UST Upgrade/Modification Applications" to cover the proposed work to KDHE for approval. Such work should not start until after KDHE has approved the UST work. Additionally, Kansas-licensed contractors certified as UST removers also must notify KDHE if USTs are removed from the ground or filled in-place. Owners must also notify KDHE of changes in UST ownership and tank status.

Owner/operators of existing USTs will receive annual renewal notices around March 15 of every year for existing USTs. After reviewing and/or making changes, owner/operators must send the return portions of the UST renewal notices to KDHE with fee payments of \$10 per tank by April 30. KDHE issues UST permits for a period of one calendar year: August 1 to July 31 of the following year. Owner/operators of UST will not receive permits for USTs that do not fully comply with KDHE regulations.

According to Kansas Administrative Regulation 28-44-17 (b), **"After June 1, 1991 no person shall place a regulated substance in a regulated underground storage tank unless a valid permit is openly displayed at the facility."** Furthermore, subsection (a) of that regulation states that the tank owner has responsibility to continuously maintain permits for the tanks. Anyone engaged in any activity that violates K.A.R. 28-44-17 is subject to fines in an amount of up to \$10,000 per violation per tank. Such activity includes (1) accepting delivery of regulated products into storage tanks lacking permits [the delivery company is also subject to a fine], (2) storing regulated products in storage tanks lacking permits, and (3) dispensing of regulated products from storage tanks lacking permits.

RELEASE DETECTION

Release detection for all tanks is required as of December 23, 1993. Methods of complying with the release detection requirements are described in the release detection methods section of this document.

Release detection for all pressurized lines is required as of December 23, 1990. Release detection for buried lines can be accomplished by performing annual line testing or by installing line-monitoring equipment: automatic line monitors, interstitial monitors, or vapor monitors. In addition to release detection, a flow restrictor, continuous alarm, or an automatic shut off must be present which will detect a release of 3 gallons per hour from a pressurized line.

Release detection for a conventional suction line is required once every three years.

Safe suction lines must contain only one check valve immediately below the suction pump with the piping sloping toward the tank. Most suction systems are not the safe type, unless they were installed after 1988. Release detection is **not** required for safe suction lines.

Kansas-licensed UST testers must submit results of tightness tests to KDHE immediately after completion. Prior to the installation of or the changing of release detection equipment, Kansas-licensed contractors certified as UST installers must submit an "Upgrade/Modification Application" to KDHE for approval. KDHE must approve the application before any work can proceed.

TANK/LINE RELEASE DETECTION METHODS

Release detection requirements can be met by any of the following:

1. Tightness testing Tightness testing must be capable of detecting a release of 0.1 gallons per hour from any portion of the tank or line that routinely contains product. Pressurized product lines that lack monthly monitoring equipment must be tightness tested once every year.

New UST systems can be tightness tested every 5 years for a total of 10 years provided that:

- KDHE receives tank tightness testing results immediately after installation, and
- The owner/operators conduct daily inventory control.
- After 10 years begin a monthly monitoring method (items 2 through 5 below) of release detection

Owner/operators of USTs who upgraded to meet 1998 standards for corrosion protection, spill prevention, and overfill prevention prior to December 22, 1998, also could have their tanks tightness tested every 5 years for a total of 10 years. Specifically:

- The first tightness test needed to take place after the upgrade work was completed,
- A direct entry internal inspection was used to assess the structural integrity of the UST before lining the tank, and
- The owner/operators conduct daily inventory control.

Note: Owner/operators of USTs who upgraded to meet 1998 standard for corrosion protection must use one of the monthly monitoring methods listed below if their USTs were assessed for structural integrity with alternative methods under ES-94 or American Society of Testing Methods (ASTM) G 158 standards.

As of December 22, 1998, The U.S. Environmental Protection Agency and KDHE stopped recognizing annual tank tightness testing as a sole means of release detection for USTs. However, KDHE can order tank and line tightness testing if owner/operators have not performed release detection or if an existing UST system, out of service for 6 or more months, is brought back into service.

2. Automatic tank gauging The automatic gauging system must be capable of detecting a release of 0.2 gallons per hour from any portion of the tank that routinely contains product. UST owner/operators using automatic tank gauges must be able to show evidence of one passing Leak Test a tank per month. Some owner/operators may need to (1) fill their USTs to some minimum capacity (dependent on the model) that will allow the ATG to show a passing Leak Test, and/or (2) may need to shut their systems down to allow the ATG to show a passing Leak Test.

3. Statistical Inventory Reconciliation (SIR) Statistical Inventory Reconciliation is a newly approved monthly monitoring method that meets the leak detection for tanks and lines. UST owner/operators send SIR service providers copies of monthly inventory control records. The SIR service providers then perform a statistical analysis on these inventory control records to determine if the tanks and product lines are not leaking at a rate of 0.2 gallons per hour during a given month. KDHE keeps a list of approved SIR service providers

4. Soil vapor monitoring method A soil vapor monitoring system is only useful at sites where soil or backfill materials are sufficiently porous and the stored substance is volatile enough to produce a vapor level which is detectable by the monitoring device. This method is not applicable if the monitoring device will be adversely affected by moisture or background contamination at the site. A site assessment must be conducted to determine the number, placement, and construction of wells.

5. Groundwater monitoring method For groundwater monitoring to be used as a release detection method, a number of conditions must exist. The groundwater must intersect the tank excavation and the backfill material must have a hydraulic conductivity of not less than 0.01 cm/sec. A site assessment must be conducted to determine the number, placement, and construction of wells.

6. Interstitial monitoring Interstitial monitoring is used with double wall UST and/or product lines or where a secondary barrier is present to retain the contaminant until detected by a monitoring system.

7. Manual tank gauging Manual tank gauging is only approved for tanks not containing used oil of 1000 gallons or less and used oil tanks 2000 gallons or less. This method involves two consecutive tank stickings both before and after a rest period each week. A leak is subject to reporting if a loss of greater than 10 gallons in a weekly test is indicated or if a monthly average indicates a loss of 5 gallons or greater.

Tank Size	Minimum Duration Of Test	Weekly Standard (1 test)	Monthly Standard (4-test average)
111 up to 550 gallons	36 hours	10 gallons	5 gallons
551-1,000 gallons	36 hours	13 gallons	7 gallons
1,001-2,000 gallons	36 hours	26 gallons	13 gallons

8. Standby heating fuel tanks Backup heating fuel supply tanks for heating can meet release detection requirements by conducting inventory control, if fuel is dispensed from the tank a total of 24 hours or less each month and less than 500 gallons of fuel per month are used. If these levels are exceeded at any time during the year, the owner must meet tank/line release detection requirements during the time of high usage by using tightness testing or another approved method.

9. Backup generator tanks Tanks used only as a fuel source for a backup generator are deferred from tank/line release detection requirements. These tanks are also subject to inventory control.

Before release detection equipment is installed, approval must be received from KDHE.

INVENTORY CONTROL REQUIREMENTS

Inventory control must be performed for all tanks that store or dispense product regardless of the method of release detection used by owner/operators on their USTs. Inventory control must be performed every operating day for all UST systems that store and dispense fuel. If no fuel is dispensed from a tank on a regular basis, the inventory must be performed and reconciled a minimum of once a month. A release is subject to reporting if a shortage of greater than 1% of the flow-through plus 130 gallons in a one-month period is indicated. Inputs, withdrawals, and remaining volume must be recorded each operating day with measurements made before and after each delivery. Product level measurements must be within one-eighth of one inch with product metering to within 6 cubic inches for each 5 gallons. The water level within the tank must be determined and recorded a minimum of once a month. Manual gauging will provide a substitute to inventory control requirements for waste oil storage tanks with capacities of 2000 gallons or less.

CORROSION PROTECTION

All existing tanks and metallic product lines must have corrosion protection by December 23, 1998 if they are to remain in use. Owners may elect to upgrading existing UST systems or replace old unprotected metal systems before the compliance date. Corrosion protection of existing tank systems must meet the following requirements:

1. Corrosion protection systems must be designed by a corrosion expert and approved by KDHE before being added to an existing UST system.

2. Tanks greater than 10 years in age must have an internal inspection to insure that the tank is structurally sound, before the cathodic protection systems can be added. KDHE also allows alternative assessments of the structural integrity of USTs under the current American Society of Testing Methods (ASTM) G 158 standards prior to the addition of cathodic protection to USTs. Owner/operators of these UST systems must demonstrate release detection through tank and/or line tightness testing or monthly monitoring before the addition of cathodic protection.

3. If the tank is less than 10 years of age, cathodic protection can be added without an internal inspection if:

- A monthly monitoring system is in place that will detect a release.
- Two tightness tests are conducted on the tank. The first must be conducted prior to adding corrosion protection and the second is performed between three and six months after installation of the equipment.

4. Internal lining of tanks will satisfy corrosion protection requirements if

- The first internal inspection of a lined tank is due 10 years after the lining was installed.
- After 10 years, the internal lining of a UST must be inspected every 5 years.
- No additional internal lining inspections are required if cathodic protection is added to the tank within 10 years of installing the internal lining.

Note, the addition of cathodic protection will eliminate the need for internal inspections of lined tanks. However, owner/operators of USTs who wait more than 10 years after the installation of an internal lining will need to have all required inspections completed before the addition of cathodic protection.

5. All metallic lines must be electrically isolated from the tank and other unprotected structures. Fiberglass tanks and lines are non-corrosive materials and do not require corrosion protection.

6. Cathodic protection is also required on metallic flex connectors that come into contact with the soil. Flex connectors can be protected with either spike or clip on anodes, or nonmetallic boots.

SPILL AND OVERFILL PREVENTION

Spill protection is designed to eliminate releases caused by spillage from the transport hose while filling a tank. Overfill protection must either automatically shut off the flow of product into a tank when the tank is 95% full or alert the operator when the tank is 90% full. By December 23, 1998 all tanks must be equipped with spill and overfill protection if more than 25 gallons of product is deposited into the tank at one time. For this reason most waste oil tanks will not need spill and overfill equipment. Owners may elect to upgrading existing tanks or install this equipment at the time of tank replacement. Regardless of the method each installation must be approved by KDHE before being installed.

UNDERGROUND STORAGE TANK CLOSURES

TEMPORARILY-OUT-OF-SERVICE

Owner/operators who discontinue using USTs must inform KDHE in writing to request that the status of their USTs be changed to "Temporarily-out-of-Service." UST release detection requirements can be deferred for up to 12 months for currently active tanks, if the tanks are temporarily abandoned. The steps to temporarily abandon your regulated underground storage tanks are listed below:

- The tanks must be emptied.
- The fill pipe and gauge opening must be sealed;
- The product lines must be sealed; the pumps locked, and the electrical power shut off;
- The vent lines must remain open.
- If your underground storage tank system includes impressed current cathodic protection, do not shut-off electrical power to the rectifier.
- Inform your 3rd Party Liability Insurance carrier that you will no longer be storing regulated substances in your underground storage tank system while its status is changed to "Temporary-out-of-Service." However, do not drop the 3rd Party Liability Insurance for these tanks. KDHE requires that owner/operators of USTs continue to demonstrate financial responsibility for USTs that remain in the ground.
- Please continue to pay yearly tank registration fees for your underground storage tank system while it is "Temporary-out-of-Service."

"Temporary-out-of-Service" underground storage tank systems may be brought back into service by upgrading to meet KDHE requirements for tank and line release detection, inventory control, spill prevention, overfill prevention, and corrosion protection.

PERMANENTLY-OUT-OF-SERVICE

An environmental site assessment is required for any UST to be permanently closed. KDHE must be notified before an UST can be removed or abandoned in place. With adequate notice, the KDHE field staff can inspect a tank removal site and perform a site assessment at no cost to the owner. If a tank is to be abandoned in place the owner must hire an environmental professional to perform the site assessment prior to abandonment. Once KDHE has evaluated the site assessment and approved the closure, the tank may be filled with an inert solid material such as sand. If contamination, exceeding KDHE standards, is discovered at any closure site, remedial action will be required.

REPORTING OF UST SYSTEM RELEASES

All releases from UST systems and associated piping must be reported to KDHE immediately after discovery. It is very difficult to accurately estimate the quantity of an underground release and for that reason KDHE requires that all releases be reported. Aboveground releases of petroleum must be reported if water or soil pollution is caused or threatened. UST releases should be reported to Roger Boeken (785) 296-1674 or to the appropriate district office for your area.

FINANCIAL RESPONSIBILITY REQUIREMENTS

All owners of USTs must meet financial responsibility requirements by October 26, 1991. The Kansas Legislature passed Senate Bills 398 and 554, during the 1989 and 1990 legislative sessions, to provide UST owners in Kansas a method to meet the federal financial responsibility requirements. The Petroleum Storage Tank Release Trust Fund was created during the 1989 legislature to provide pollution liability coverage for tank owners who had no other means of meeting these federal requirements. The attached summary of Petroleum Storage Tank Release Trust Fund provides more details about the Trust Fund. Coverage for third party claims for personal injury and property damage, as required by the federal law, are not addressed by the Trust Fund. Senate Bill 554 established a program to provide third party liability coverage for tank owners. The insurance coverage for third party liability, in compliance with the Kansas Storage Tank Act, can be arranged through your current insurance agent. Your agent should contact the Servicing Carrier through its representative, Arthur J. Gallagher & Co., Kansas City, MO, at 1-800-934-4624. An average fee of \$300 per tank per year will be required for tank owners to participate in this program.

THE KANSAS PETROLEUM STORAGE TANK RELEASE TRUST FUNDS OVERVIEW

The Storage Tank Act establishes two separate Trust Funds to assist owners and operators of storage tanks with the cost of remedial actions. Both funds are designed to provide financial assistance to owners and operators of facilities where contamination from petroleum storage tanks has occurred. The Trust Funds are financed from a \$.01 fee placed on each gallon of petroleum (except aviation fuel) product manufactured in or imported into the state. The funds will be abolished on July 1, 2014, by the sunset provision unless reenacted by the Legislature. Outlined below is a brief summary of the program.

Who Qualifies for Reimbursement from the State Trust Funds:

- Owners or operators of underground and aboveground storage tanks. Private businesses, local and state governments who own/operate petroleum storage tanks are eligible.
- To be eligible, the contamination at the site must have been discovered on or after December 22, 1988.
- The following owners or operators may qualify for reimbursement:
 - "Farm or residential noncommercial USTs of 1,100 gallons or less, or
 - USTs used to store heating oil at single-family residences.

Who Does Not Qualify for Reimbursement:

- The federal government.
- Owners or operators who meet the federal criteria for self-insurance and whose leaking tank is located on a facility that is engaged in the refining or production of petroleum.
- Owners or operators who knowingly allow a release of petroleum to occur or who do not cooperate in conducting the appropriate corrective action.
- Owners or operators of storage tanks associated with pipeline facilities where releases have occurred.

How to Obtain Reimbursement from the State Trust Funds:

- Submit an application for assistance from the appropriate fund.
- KDHE Trust Fund Staff will prepare and provide the owner with a pre-approved corrective action plan at a time determined by the priority ranking system. The work-scope will be prepared to assist the owner or operator in obtaining the required competitive bids.
- Three bids for all work associated with the remedial action must be obtained and approved in writing by KDHE Trust Fund Staff prior to the work being conducted.
- KDHE offers a bid assistance program for those who prefer to have KDHE obtain bids for them.
- The applicant must sign a consent agreement with KDHE related to implementation of the corrective action under the applicable fund.

Compliance Requirements:

To avoid potential fines, all regulated underground and aboveground storage tanks must be registered with KDHE and the owners/operators of underground storage tanks must comply with inventory control, release detection, and release reporting requirements. At the time they are approved for Trust Fund assistance, storage tank owners or operators who are not in compliance will be fined based upon the following:

Failure to register storage tanks (aboveground and underground): \$50.00 per storage tank
Failure to maintain inventory control: \$300.00 per underground storage tank (first violation)
Failure to perform release detection: \$2,000.00 per underground storage tank, \$250.00 per line system
Failure to immediately (within 24 hours) report a release: \$2,500.00 per release
Failure to cooperate with KDHE directives: \$2,500.00 per site
Operating (aboveground and underground) without a permit: \$2,000.00 per site
Failure to provide financial responsibility (third party liability coverage) for underground storage tanks: \$500 per UST.

Petroleum Storage Tank Release Trust Fund Site Ranking System:

Due to the overwhelming number of applicants applying for assistance from the funds, KDHE has developed a ranking system that evaluates the risk associated with each site. This ranking system takes into account several factors related to each site to determine which sites pose the greatest risk to the public. Using the ranking system KDHE assigns a score to each site. This score will establish the order in which sites are investigated and remediated. By using this method KDHE can focus limited resources on resolving the greatest risks to the public.

Costs Covered by the State Trust Funds:

(Cost must be pre-approved in writing by KDHE Trust Fund staff prior to the start of work)

- Preparation of corrective action plans which address the extent of contamination.
- Investigation and assessment of the contamination or petroleum release.
- Disposal and treatment of contaminated soil, groundwater, and/or surface water.
- Removal of contaminants from soil, groundwater, and/or surface water.
- Monitoring of the soil, groundwater, and/or surface water and maintenance of the monitoring equipment.
- Restoration or replacement of public water supplies.

Costs Not Covered by the State Trust Funds:

- Repair, removal, replacement, or disposal of tanks, product in tanks, lines, or dispensers.
- Costs for the loss of business or costs for third party bodily injury or property damage.
- Work or costs not approved in writing by KDHE Trust Fund Staff prior to the work being conducted.

Deductibles:

The deductible for each release is \$3,000 plus \$500 for each tank (above and below ground) located at the site of the release.

Financial Limitations of the Trust Funds:

- For each petroleum release: one million dollars, less the deductible.
- For owners or operators who own less than 100 tanks: a total annual amount of \$1,000,000 for all sites owned or operated, less any deductibles.
- For owners or operators who own more than 100 tanks: a total annual amount of \$2,000,000 for all sites owned or operated, less any deductibles.
- Reimbursement will not be provided for costs covered by insurance policies, warranties, or other financial assistance.

Underground Storage Tank Third Party Liability Insurance (Financial Responsibility):

Third Party Liability Insurance is available through your local insurance agent for USTs. Questions regarding the Third Party Liability Insurance can be answered by your local insurance agent or by contacting Arthur J. Gallagher & Co., Kansas City, MO. at 1-800-934-4624.

FOR FURTHER INFORMATION:

If you have questions or need copies of the application form please contact:

Kansas Department of Health and Environment (KDHE)
Bureau of Environmental Remediation
Storage Tank Section
1000 SW Jackson, Suite 410
Topeka, Kansas 66612-1367
(785) 296-1678

If you should need additional information regarding UST requirements, or if you need to register UST tanks within Kansas, you should contact the appropriate individual listed below:

CENTRAL OFFICE STAFF

Program Area	Telephone No.
General Program Information	(785) 296-1678

Underground Storage Tank Trust Fund

Remedial Action	Greg Hattan	(785) 296-5931
Reimbursements	Mickey Trimble	(785) 296-5625

Underground Storage Tanks (USTs) Prevention

Unit Chief	Michael L. Pomes	(785) 296-1685
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New Installations & Release Detection	Kristine Hicks	(785) 296-6372
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Trust Fund Compliance & Fed. Financial Responsibility	vacant	(785) 296-1677
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Tightness Testing & Contractor Licensing	Linda Romine	(785) 296-1598
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UST Permits & Registration, Fees, Ownership Changes, and Tank Abandonment	Debbie Ellis	(785) 296-1599
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Leaking USTs

Tank Closure, Leaks	Roger Boeken	(785) 296-1674
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Tank Removals and Site Assessments		
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District Staff

DISTRICT STAFF

1. Southwest District Office - Dodge City – (620) 225-0596		
Douglas Doubek	Env. Geologist	Fax - 3731
Bruce Ard	Env. Geologist	
Scott Hughbanks	Env. Technician	

2. South Central District Office - Wichita – (316) 337-6020		
Kyle Parker	Env. Geologist	Fax - 6023
Meer Husain	Env. Geologist	
Stan Marcotte	Env. Scientist	

3. Southeast District Office - Chanute – (620) 431-2390		
William Thornton	Env. Geologist	Fax - 1211

4. Northeast District Office - Lawrence – (785) 842-4600		
Dan Kellerman	Env. Geologist	Fax - 3537
Meredith Roth	Env. Technician	
Tom Winn	Env. Geologist	

5. North Central District Office - Salina – (785) 827-9639		
Howard Debauche	Env. Geologist	Fax - 1544
Scott Lang	Env. Geologist	

6. Northwest District Office - Hays – (785) 625-5663		
Bill Heimann	Env. Geologist	Fax - 4005
Darrell Shippy	Env. Technician	

